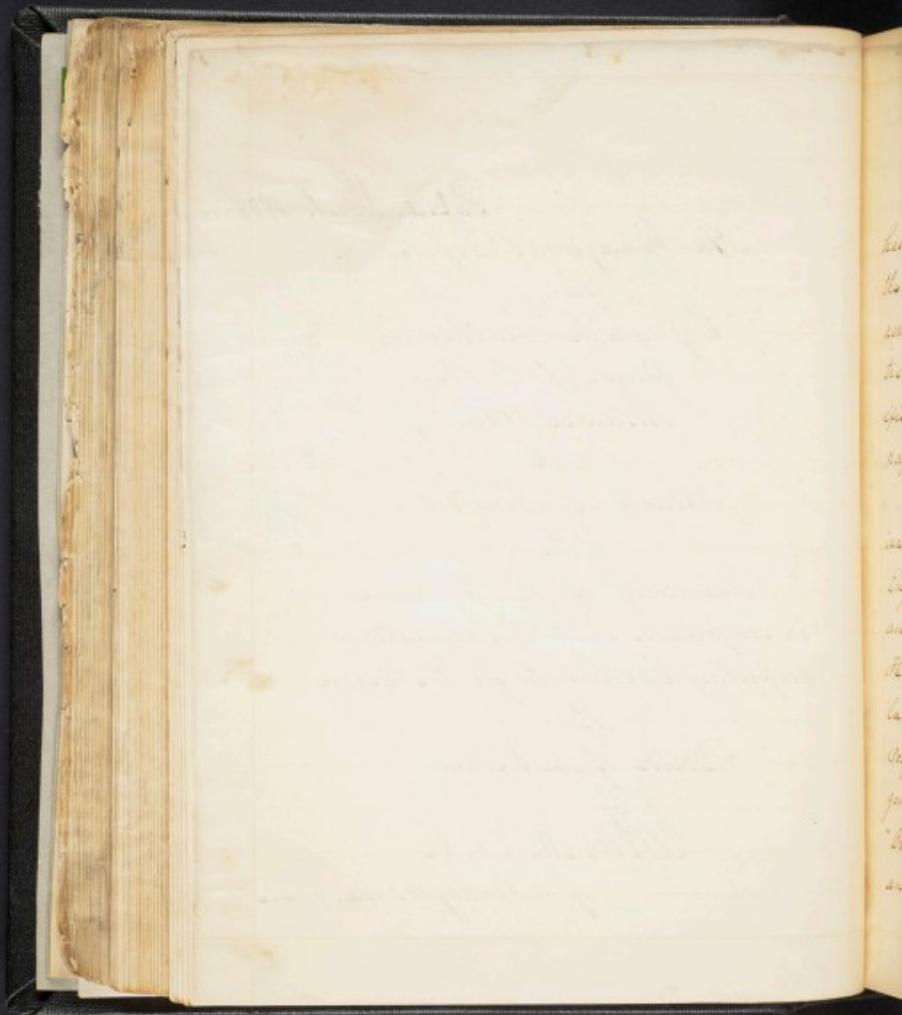


12

W<sup>m</sup> Penn S<sup>r</sup> of Lips, me other  
sufficient his disputation that  
Paged Jan 1<sup>st</sup> 1828

An Inaugural Dissertation  
on  
Cynanche Thachalis  
presented to the  
Medical Faculty  
and  
Board of Trustees  
of the  
University of Pennsylvania  
in compliance with their regulations  
respecting Candidates for the Degree  
of  
Doctor of Medicine  
by  
W<sup>m</sup> M<sup>ll</sup> Clarke  
of Pennsylvania. 1828.



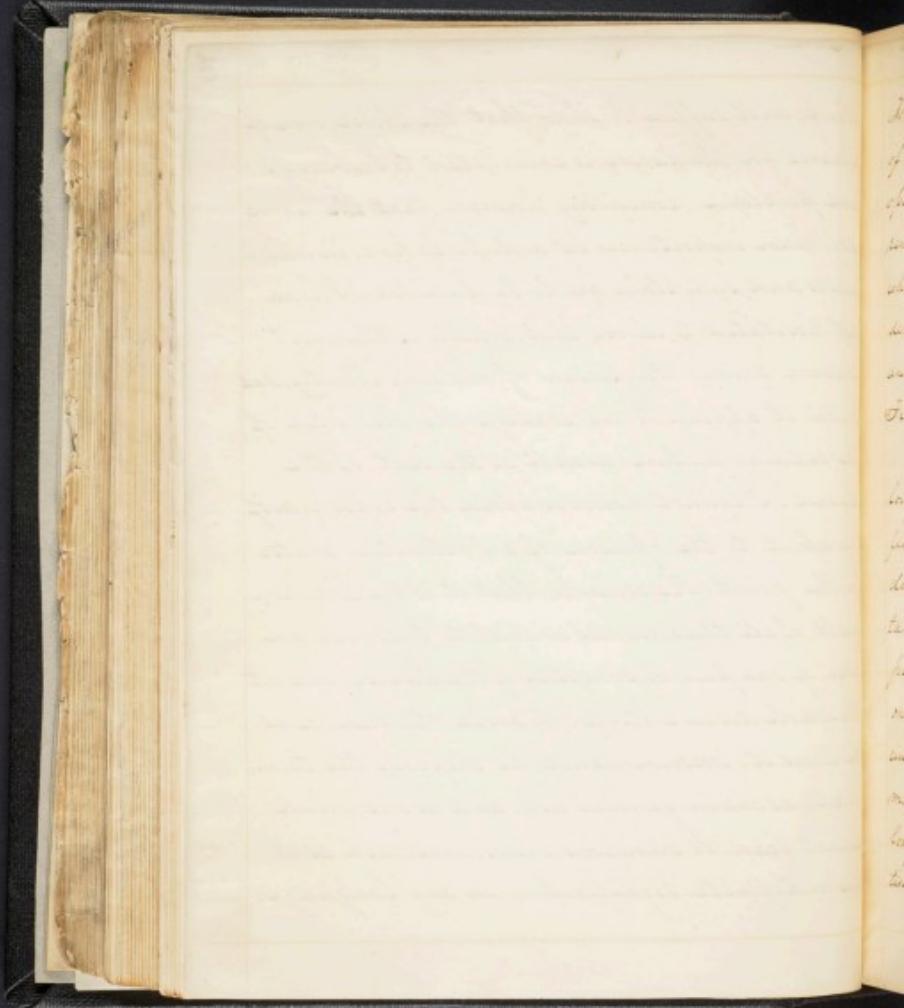
The great diversity of opinion, which has existed with regard to the nomenclature of the disease, forming the subject of this page, has rendered the selection of a proper title for it extremely difficult. That such diversity has in fact existed among authors, is evident from the following rapid sketches.

By Baillie, it was called "Affection orthopneica"; by Wahilam, "Cynanche Stricula"; by Bee and Dugstreets, "Angina suffocatrix"; by Ballen, Schwan and others, "Cynanche, or Angina Strachensis"; by Horne, "Suffocative Stricula"; by Star, "Morbus membranaceous"; by Michaelis, "Angina Membranacea, sic Polypaea"; by Dick, "Cynanche Laryngea"; by von Barlow, "Morbus hæcculentus infantum"; by Laudum, "Orthopnea Membranacea"; and by Frank, Abes and others, "Tracheitis infantum". These instances, I



2

think, will suffice to show that the choice, even of  
a name for the disease, is calculated to embarras  
and perplex. — Considering however that the name  
is of minor importance in a description, in which  
causes and symptoms are to be described, I have  
not hesitated to choose that, which is the most  
common among Physicians of our own Country, and  
which it appears to me conveys the best idea of  
the leading feature, as well as the seat of the  
disease. I cannot however avoid the expression of  
my respect to the opinion of an interesting writer  
on this point. He remarks that it is the common  
fault of all these names, or epithets, to convey an  
idea of one part, or symptom of the disease, and not  
the whole disease itself. To avoid this error, as he  
terms it, inconvenience, he employs the term  
"Croup," as one in general use, and as one which  
cannot lead to erroneous views, insomuch as it  
has no definite signification in any language.



To this term I have no objection thus far in this view  
of it, though it may be questioned, whether or not the  
opinion of Chevre regarding its etymology, may not  
render it objectionable, on the same grounds as those  
which have led to the abandonment of others. He  
derived it from a word employed in Scotland, &c. says  
and that it is conjectured is but an alteration of the  
French word *verpier*. -

It is not my intention however to dwell  
longer on this preliminary section of the subject. A  
few words only will be necessary on the history of the  
disease, and the individuals most liable to its at-  
tacks, before I proceed to notice more important  
particulars. - It has been considered as peculiarly  
one of modern ages, but the records of Ancient Medi-  
cine warrant us in the belief, that tho' the disease  
may be more prevalent now, it was not unknown  
long before Dr. Home published his valuable trea-  
tise in 1765. - By a late French writer it is asserted wh-

the  
and  
the  
the  
the  
the

can

the

that Baillot, who lived in the middle of the 18<sup>th</sup> century, gave the first description of it. The same writer expresses his opinion that it has always existed, but that its frequency of development is owing to the Physical education of children, subjected to the causes that produce it. It is a disease which is usually confined to children from the time they are weaned, till the 9<sup>th</sup> or 10<sup>th</sup> year, and it is said that the earlier they are taken from the breast, the more liable they are to it. The robust and healthy are more frequently attacked than the weak and unhealthily, and those once affected are very liable to return of it, of equal force and violence. It often attacks several children of the same family, and this no doubt has given rise to the idea of its being a contagious disease, but it is owing to their being similarly exposed to its exciting causes. It has several times appeared as an Epidemic in different parts of our country. — The properly considered as the

de  
pe  
ab  
pe

de  
pe  
ab  
pe  
de  
pe  
ab  
pe  
de  
pe  
ab  
pe  
de  
pe  
ab  
pe

5

disease of children; adults are by no means exempt from it, and numerous records of our own Country, as well as those of Europe, give evidence of its frequency after the age of Puberty..

With regard to the nature of Cynanche Trachealis, it is usually defined to be an inflammation of the mucous coat of the Trachea, extending to the Bronchia and Lungs, attended with spasms of the Diaphragm, and upper part of the Trachea. Some writers however consider it as always an inflammatory disease, and others as spasmodic, but both these states may exist at the same time.. It may be inflammation attended with spasm, or it may originate in spasm and be followed by inflammation, and either symptom may be present, and the disease run its whole course, without the other appearing. This is so evident, that the two forms have been designated as different diseases.

to  
an  
an  
an  
do  
so  
pe  
pe  
wh  
pe  
the  
bu  
the  
te  
an  
ap

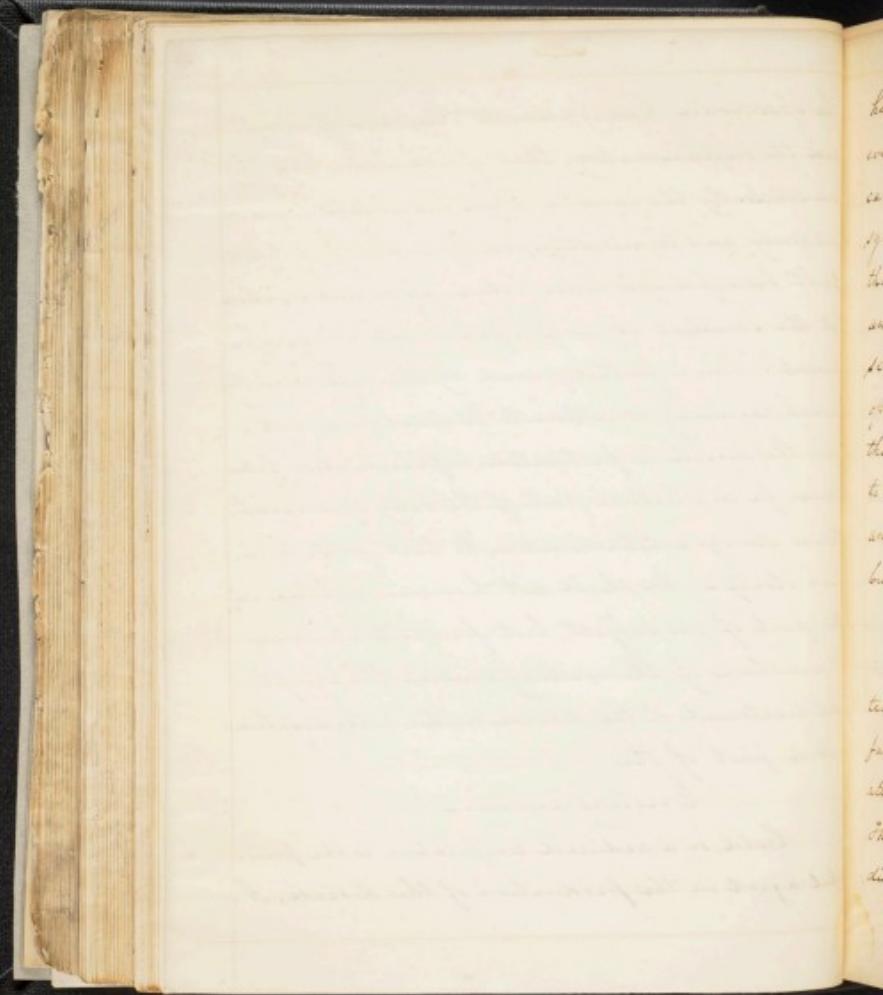
8

the Spasmodic, having received the name of Corp.,  
and the inflammatory, that of Tracheli; but they  
are evidently the same. When the disease comes on  
suddenly, and terminates speedily in death, it leaves no  
doubt of a Spasmodic nature, for on examination  
not the smallest signs of inflammation have ap-  
peared. This is further proved by the inflammatory  
process requiring some time to be developed, but  
when the disease is protracted inflammation takes  
place, for in whatever part of the body spasm exists,  
there is always a determination to that part to re-  
main itself. We shall not however enlarge on  
this part of our subject, but proceed at once  
to a notice of the exciting causes, - the symptoms,  
and treatment of the disease under consideration.

And first of the

### Exciting causes. -

Cold, or a reduced temperature is the prin-  
cipal agent in the production of this disease. A

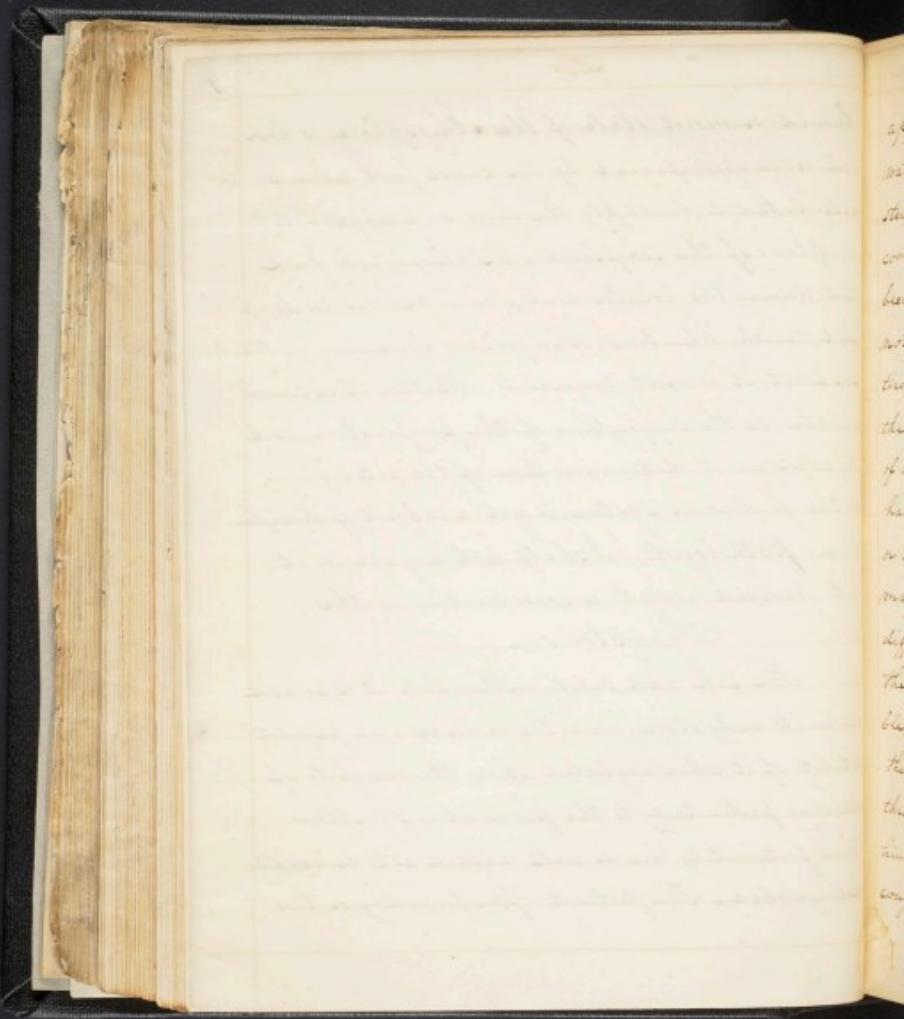


1

humid, or moist state of the atmosphere is however, when accompanied by the cause just named, calculated to multiply the cases, and aggravate the symptoms of the complaint - We accordingly find that during the winter and spring seasons, in damp and marshy situations, or in places bordering on the sea coast, it is most prevalent. Whether these causes operate by the suspension of the perspiration, and the consequent determination of the vital forces to the pulmonary system, is yet a subject of dispute among pathologists. I shall not engage in it, but proceed next to a consideration of the

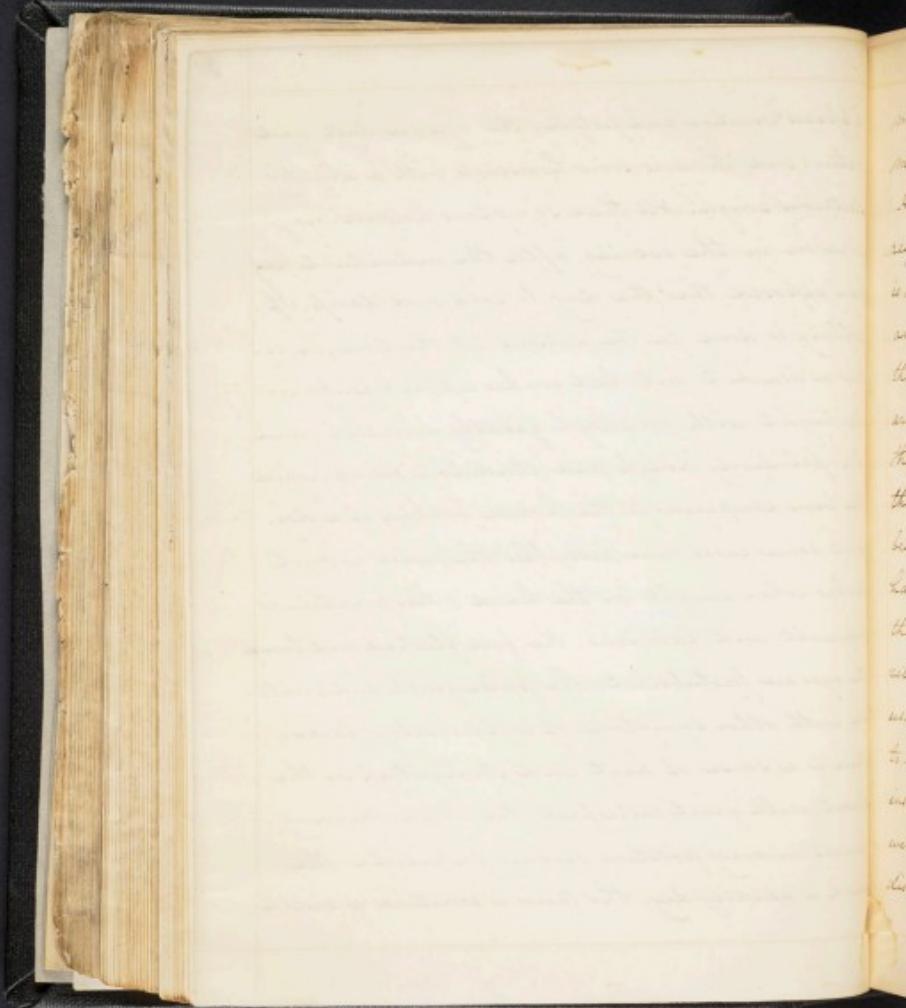
### Symptoms. -

The ease and safety with which it is combated in its early stage, and the violence and frequent fatality of it when neglected, show the necessity of attending particularly to the premonitory symptoms. These fortunately are so well marked as to be readily distinguished - The patient often for a day or two



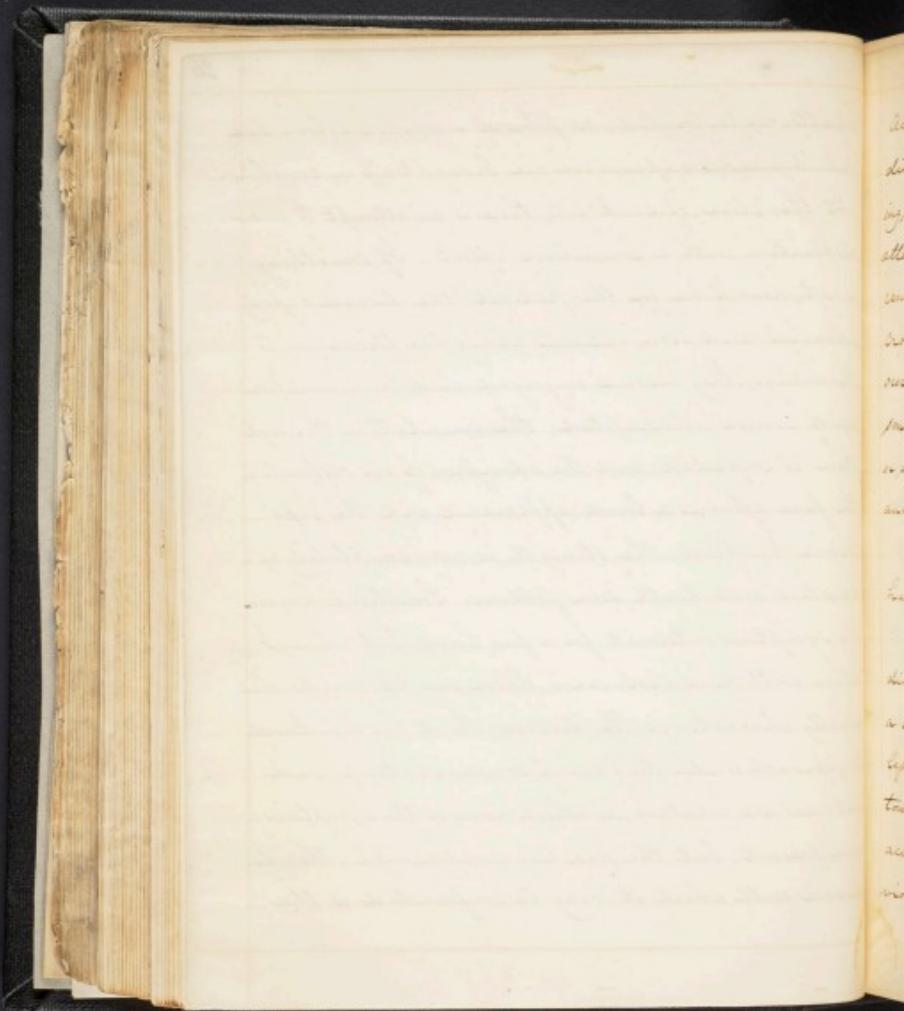
5

appears inactive and fretful, the eyes are dull and watery, and there is some hoarseness with a slightly startorous cough. All these symptoms however may come on in the evening, after the individual has been exposed thro' the day to cold and damp. If nothing is done for the patient at this time, he remains as usual to rest, but wakes up suddenly in the night, with his cough greatly increased, and of a peculiarly rough and stridulous sound, which has been compared to the hoarse barking of a dog, or in some cases, more resembles the noise a sow makes when caught in the hand. Respiration is difficult and laborious, the face flushed and turgid, the eyes are protuberant, the pulse quick and irritable, with other symptoms of inflammatory fever; there is a sense of heat and straightness in the throat with great restlessness, the child throwing himself in every position seeking for relief - the cough is usually dry, tho' there is sometimes a violent



9

matter expectorated, or films of a whitish colour and membranous appearance are brought up in coughing. At the close of each fit, there is an attempt to renew respiration with a convulsive effort. If something is not now done for the patient, the disease rapidly advances, and soon extends along the bronchia to the lungs; they become engorged, and their functions are of course interrupted. The circulation through them is impeded, and the admission of air obstructed, the face assumes a livid appearance and the lips become purpled; the strength is now completely exhausted and death soon follows. Sometimes however the symptoms intermit for a few hours, but always return with more violence. These are the marks which usually characterize the disease, though it has been known to approach under the form of common croup, and instances are related, in which none of the symptoms were present, but the peculiar croaky cough. The only disease with which it may be confounded is the



Acute asthma of children, and from this it may be distinguished by the peculiar sound made in coughing, and by the absence of intermissions, which usually attend the latter. But the most important difference is in the power of the inflammatory action. In croup, the pulse is strong and tense, urine high coloured, the fever very great, and the voice sharp and small. In asthma, the pulse is frequent, but not full or strong, the urine limpid, and the voice croaking and deep.

The next point to be noticed in the order we have adopted, is the Prognosis.

We anticipate a favourable termination of the disease, from the voice becoming more natural, with a copious and free expectoration, the breathing being unimpeded, and an abatement of the febrile symptoms. But when we find the voice shrill and acute, with great anxiety, difficulty of breathing, violent fever, frequent fits of coughing, no expecto-



nation and the pulse irregular and intermitting,  
we apprehend danger, but patients often recover  
after all the fatal symptoms have appeared, and  
from this we must draw encouragement, and  
continue our remedies under the most disheartening  
circumstances, and success will often reward us.

#### Of Post mortem appearances. -

The appearances we observe on dissections, are simi-  
ilar to those presented to us in inflammation of  
other parts of the body. We find in the Trachea,  
Bronchia, and Lungs, marks of inflammation, with  
an engorgement of a thick mucous matter, or some-  
times an inflammatory excretion lining the Trachea  
and extending to the minute ramifications of the  
Bronchia. The appearance of this membrane has been  
questioned by many of the most respectable autho-  
rities, but accurate dissections have proved its existence.  
In some cases there is a total absence of all the  
signs of the disease, particularly in those cases that

10

ff

me

red

is p

per

it

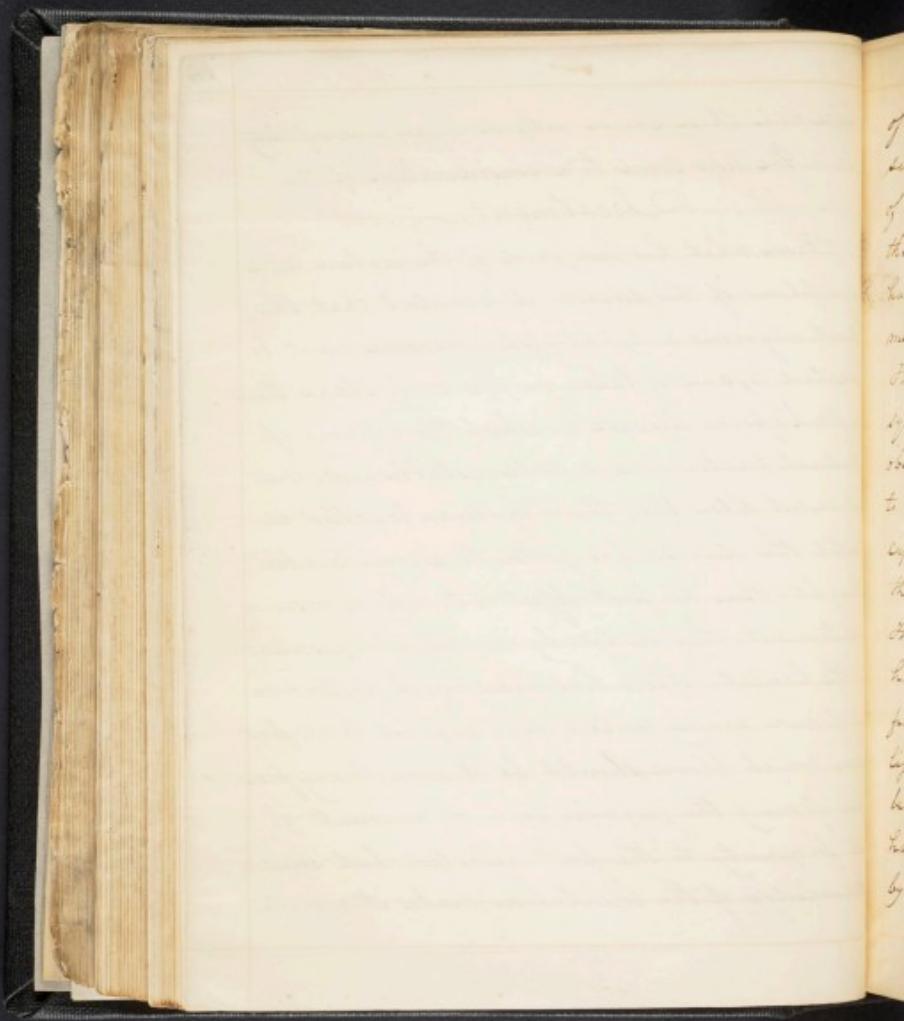
man

the

have run their course with violence and expeditiously.

We now come to a consideration of the  
Treatment.

From what has been said of the nature and symptoms of the disease, it is evident that the most vigorous antiphlogistic measures must be resorted to; and if taken in the early stage, there is perhaps no disease in which the efficacy of medical treatment is so well established. But it is not often that the Physician is called in until the disease has gotten to a considerable height. Here his first object is to reduce vascular excitement. This he does by immediately resorting to the lancet. There has been much difference of opinion among writers, with regard to the part from which blood should be drawn. Many prefer opening the jugular vein, on account of its proximity to the part affected, but our knowledge of the circulation makes it a matter



of little importance whence it be taken. Considering therefore the ease and convenience of the operation, we should prefer bleeding in the arm. With regard to the quantity, much also has been said, while some advise small bleedings by means of leeches, others carry it "ad deliquium animi". The last is by far the best plan, but unless the symptoms are very violent and the inflammation obstinate, we presume it is unnecessary to carry it to this extent, particularly as we can call to our aid cups and leeches. The former should be applied to the side and back of the neck, the latter in front. The proper time for these remedies is after we have fairly tried general bleeding, tho' sometimes from the smalling of the veins in the arm we are obliged to resort to leeches in the first place. They should be applied in considerable numbers, and after they have fallen off, the flow of blood should be promoted by the application of warm water.

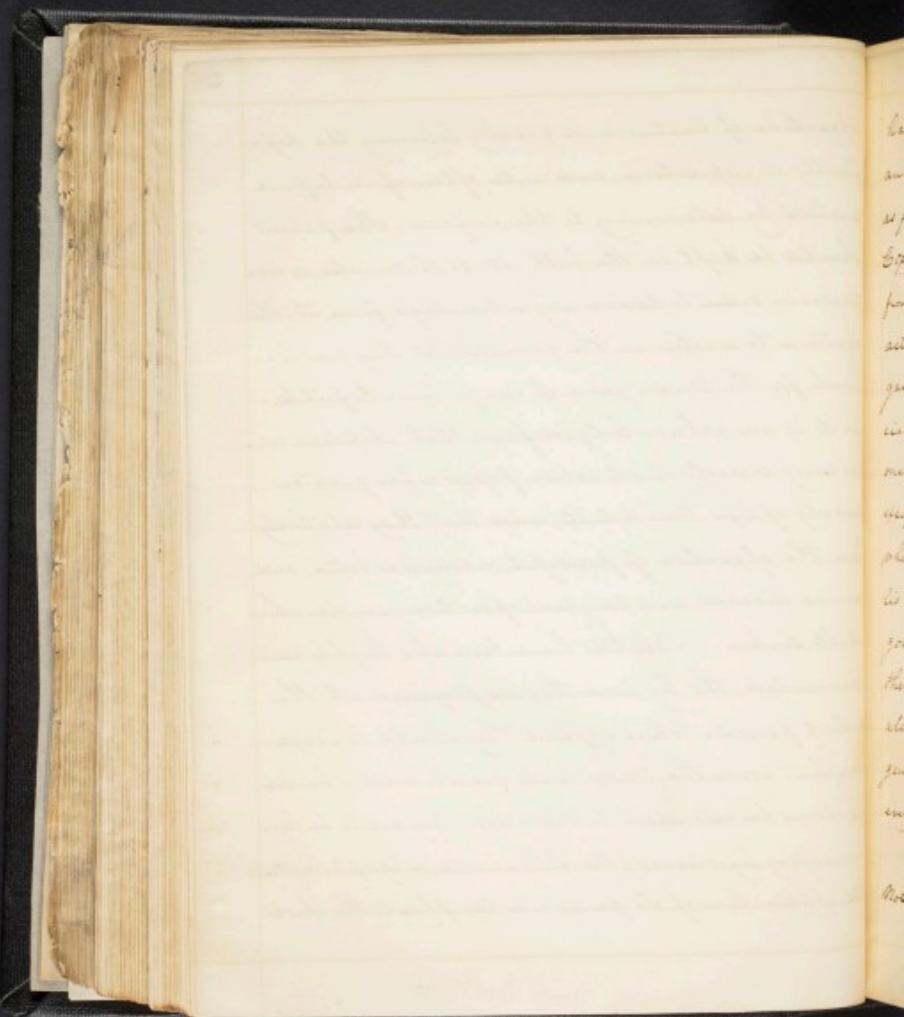


We next notice Emetics. - Their effects are to diminish the circulation, and by their copious evacuation to free the Trachea, from the lymph effused on its surface. As the benefits of these depend on their promptness and power, we must select the most active articles of the class, and of these Tartar Emetic, Specaccharanta and Sulphurine, stand first. Tartar Emetic in its vinous preparation is usually preferred, but owing to the difference of its strength, and the quantity often necessary to be taken, we should prefer a watery solution, graduating its strength according to the age of the patient, and the violence of the disease, or we may use a combination of Tart. Emet., Specac., and Cal. which is one of the most certain and active emetics. These are to be repeated at short intervals until the desired effect is obtained, and this is often astonishing, for if they do not entirely check the disease, they almost always relieve the distressing symptoms. - The warm bath has been highly recommended, as aiding the



operation of emetics, and greatly lessening the difficulty of respiration, and will often of itself prove curative by determining to the surface. The patient should be kept in the bath 10 or 15 minutes, or even longer, in order to derive any advantage from it. The objection to emetics, on the ground that they are too harsh for the tender years of our patients is futile, for it is an acknowledged fact, that children under every variety of situation, possess a far greater tenacity of life than adults, and that they relatively bear the operation of powerful medicines better, and survive diseases, and surgical operations under which adults sink. - Blisters have been also highly recommended, tho' by some they are preferred at the earliest period. When applied they should be large enough to cover the throat and breast, and should sometimes be extended to the arms; they are to be kept discharging by means of the Savincerate, or Spirit<sup>o</sup> ang.

The application of Turpentine or Camphor to the throat



40

has also been used with success. To excite expectoration and promote a determination to the surface, as well as for its emetic effects, the Five Syrup of Profefor Cox is used, and great advantage has been derived from it. In the milder forms of the disease, it often acts as a specific cure. With the same view the Pectoral Seneca has been much spoken of. From its beneficial effects in Pectoral affections, much good was at one time expected from it, but it is now rarely used, except in the latter stages or milder forms of the disease when a decoction of it is sometimes useful. The Digitalis is another remedy, made use of in this disease: its good effect depends on its acting on the arterial system thereby stopping the rapidity of the inflammation, and also allaying the spasmodic irritation. The tincture is generally prescribed, and the dose is from 5 to 10 drops every 4 or 5 hours.

The next remedy I proceed to speak of is Calomel. Not a little has been said of this; by some practitioners



it is considered as fully adequate of itself to overcome the disease. They accordingly resort to it at first and continue its administration till they have subdued the disease. They give it in doses of from 2 to 5 grains frequently repeated, thus keeping up a constant irritation along the intestinal canal, abstracting blood from the diseased part, and substituting a new action, in place of the diseased one. By others 5 or 6 grains are given every 2 or 3 hours, to very young children, and continued till there is a discharge of green bilious matter, which is the criterion of its having taken effect, and broken down the thicker parts of the blood, from which the membranous secretion is formed; but by far the best manner of exhibiting it, is the practice of the Physicians of this country: after having prepared the system, by bleeding and emetics, they give it in doses of from 6 to 10 grains, repeated according to circumstances. By such doses they ensure its operation on the bowels, and

the  
has  
not  
for  
but  
as  
as  
be  
you  
and  
man  
the  
per  
per  
of  
me  
and  
of

thus guard against any injurious effects it might have on the system. I should not here neglect to notice a method of cure, or of relief suggested to the profession by Professor Chapman. It is the inhalation of tobacco smoke by pipe or cigar, and the cases related of its efficacy, are sufficient to justify a renewal of the trial. We believe however it would be found a hazardous practice, in the hands of a young and inexperienced Physician, however safe and effectual it may have proved under the management of its skilful and enlightened author.

But there is another branch of the subject, which refers to the department of Surgery more particularly, tho' in some measure it involves the pathology of the disease. We allude to the formation of an abnormal membrane in the trachea, and the relief to be expected from the operation of tracheotomy and from other measures. - In regard to the formation of this membrane in the throat, much has been said

f

pa

pa

the

the

ste

ste

the

the

for

for

for

the

the

ste

ste

the

the

the

the

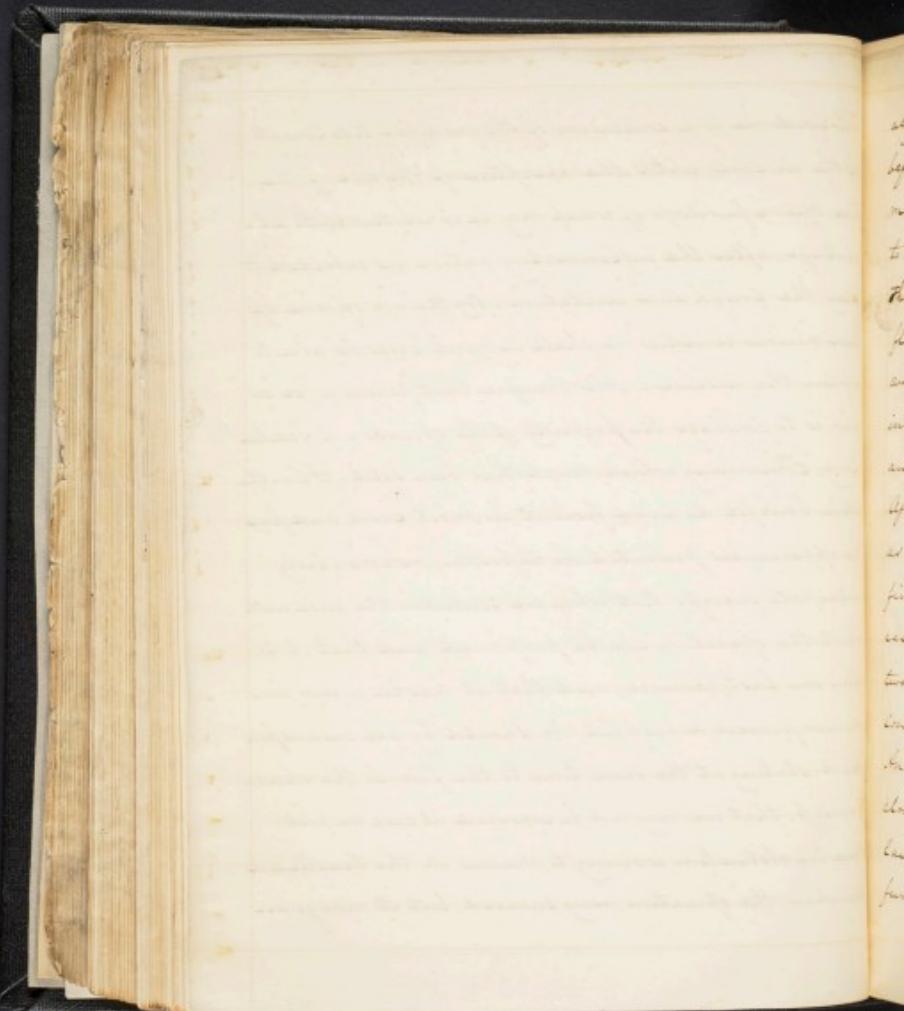
49

of late, to show that it originates in the upper part of the Tharynx, and extended downwards. By those who have adopted this view local applications have been highly recommended. By Bretonneau of Tours the minaretic acid is principally relied on. It is to be applied to the back part of the fauces, by means of a sponge attached to a whalebone probang; and the same writer has used with advantage alum finely powdered, made into a paste, and applied several times. The last remedy has been made use of, from the earliest times, in various forms of inflammation of the throat. Dr Mackenzie of Edinburgh prefers a solution of nitrate of silver; he directs xx gr to be dissolved in 3j of water, to be applied by a camel's hair brush. By these means the effusion is detached, and this action is extended into the Sorex which is a continuation of the diseased surface. No bad consequences have arisen from this practice. It has also been recommended to excite sneezing by the use of strong snuff, or the pulviseas, by which this membrane is loosened and brought up.

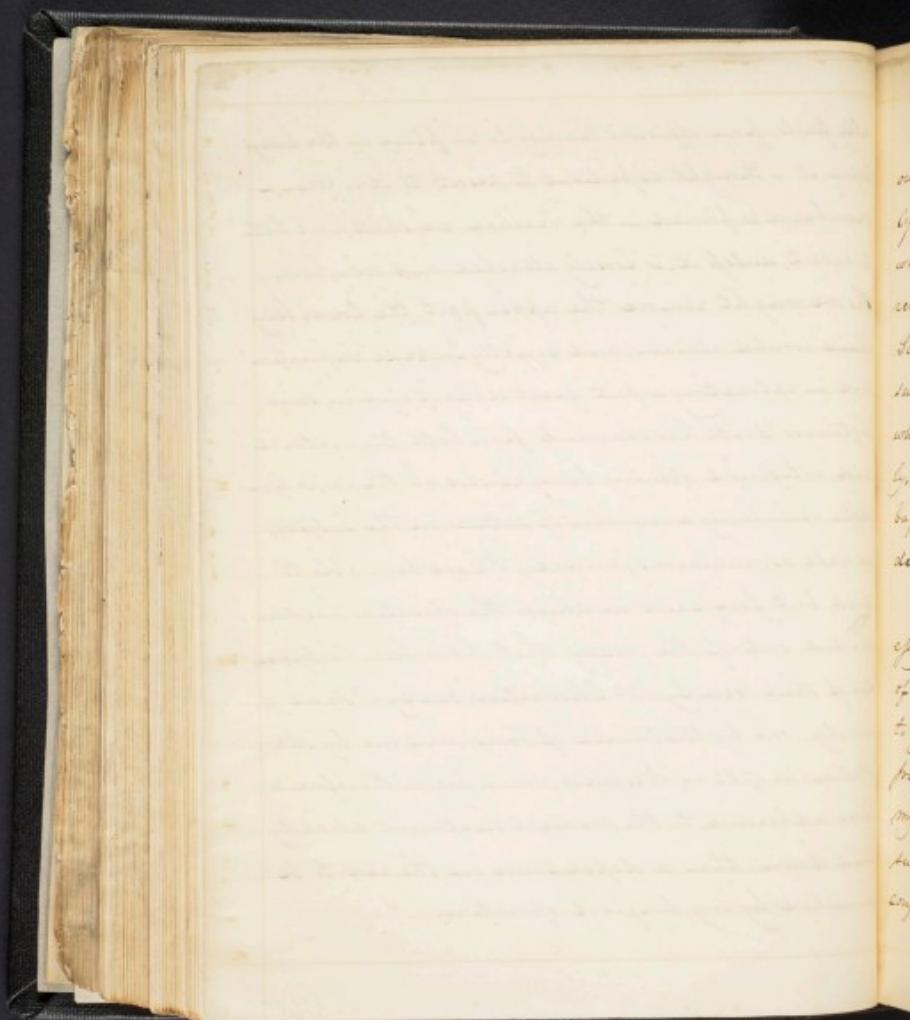
Fin  
ft.  
Dra  
an  
alb  
the  
Lub  
1000  
ste  
-  
att  
the  
and  
wh  
ft  
its  
pre  
40  
the  
Pou

This leads me to a conclusion of the medical treatment of the disease, with the exception of the use of the tinct. Opii. a few drops of which may be exhibited with advantage, after the inflammatory action has subsided to allay the cough and irritation. By the use of some of these various remedies we shall in most cases be able to subdue the disease. All therefore that remains for us now, is to consider the propriety of the operation of Tracheotomy, concerning which much has been said. From the little benefit derived from it in most cases, and from the appearances presented on dissection, we can rarely anticipate success. But when we consider the ease with which the operation can be performed, and that it is often our last resource, and that it has in a few instances proved successful, we should by all means propose it, stating at the same time to the friends the chances of success, that we may not be censured in case we fail.

Where the obstruction is owing to mucus in the Trachea, or Bronchia, the operation may succeed, but it more genera-



ally fails, from effusion having taken place in the Lungs before it is thought expedient to resort to it. When a membrane is formed in the Trachea, we shall have little to expect, unless it is loosely attached, and even here, should we might remove the upper part, the lower being fluid would remain, and equally impede respiration and in extracting a part great danger, and in some instances death has occurred from both the natural and artificial opening being closed at the same time. After examining a number of authors on the subject, as well as numerous journals, I have been able to find but five cases in which the operation has succeeded, out of the many that have been performed, two of these were by M<sup>r</sup> Chevallier, one by P. Hume of Coventry, one by Bretouille of Tours, and one by Dr. Andre in 1782. - I would much prefer therefore a close adherence to the medical treatment already laid down, than a dependence on the aid to be furnished by any surgical operation.



It may not however be improper in closing this outline of the Names, Nature, Cause, and cure of Cynanche Tachialis to state, that it is a disease, which in many instances demands all that can be rendered by the Practitioner of Medicine, the Surgeon, and the Pharmacist, to secure its successful and happy issue; and it is one too, which after all these have been skilfully, promptly, energetically, and vigilantly employed, will baffle their united efforts, and put down the dearest objects of earthly love, to an untimely grave.

I have now, Gentlemen brought my paper to a conclusion, and am fully sensible of its many imperfections. I have not offered to your notice any new views on the subject, or proposed any new mode of practice: for this my inexperience disqualifies me: and I now submit it to your consideration, with the highest confidence in your liberality.

Aselm Augustus Clarke.

